August 1975 B75-10179

NASA TECH BRIEF

NASA Pasadena Office

Three-Dimensional Models Aid Visualization of Engineering Drawings

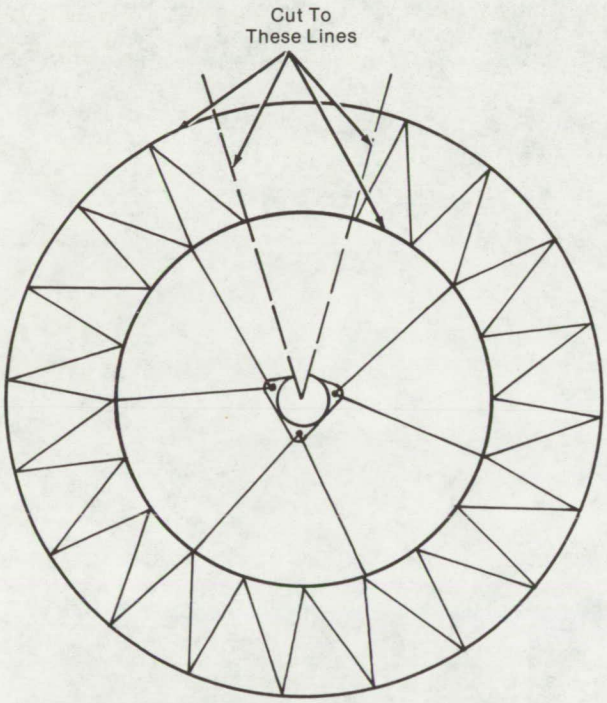

Figure 1. Copied Drawing

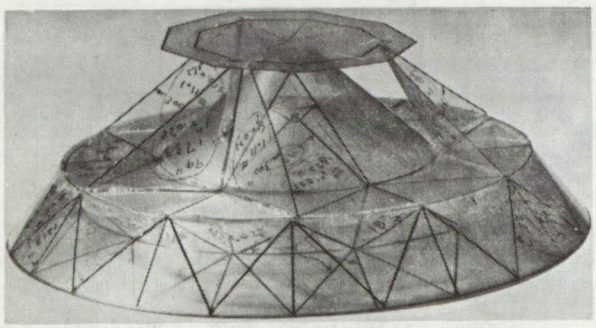

Figure 2. Three-Dimensional Model Constructed From Copies

The problem:

People often have difficulty in visualizing engineering drawings as three-dimensional models. For this reason cardboard and plywood mockups have to be constructed to allow better perception of complex designs. This approach is costly and time consuming.

The solution:

A quick and inexpensive cut-and-paste method is available for making a three-dimensional model from an engineering drawing.

How it's done:

An engineering drawing is copied on a standard office copy machine. (Large drawings may require special copy machines.) The copy is made on plastic film or paper. The film is better because it is more rigid than the paper. Once the copy is generated as shown in the example in Figure 1, it is cut along the folding lines. A three-dimensional model is formed by taping the cut ends together as shown in Figure 2.

The example illustrated takes only a few minutes. More complex drawings are generally constructed in less than an hour. Reduced scale models can be constructed using copy machines that have a reduction feature. Colored paper can also be used to code special surfaces for better visualization.

Note:

No further documentation is available. Specific questions, however, may be directed to:

Technology Utilization Officer
NASA Pasadena Office
4800 Oak Grove Drive
Pasadena, California 91103
Reference: B75-10179

(continued overleaf)

Patent status:
NASA has decided not to apply for a patent.

Source: Alan R. McDougal and
Cledith E. Aardahl of
Caltech/JPL
under contract to
NASA Pasadena Office
(NPO-13394)

Categories: 08 (Fabrication Technology)
07 (Machinery)
06 (Mechanics)
09 (Mathematics and Information Sciences)

B75-10179